

### **Neosens discusses about its unique innovative sensors based on MEMS technology to monitor continuously fouling phenomenon in any liquid environment.**

> Dr. Laurent Auret, Chief Executive Officer of Neosens S.A.



Prior to founding Neosens in 2001, Dr. Laurent Auret was Research & Development Manager of new technologies at Elta (AREVA Group) during 6 years. He holds a PhD in MEMS technologies from the LAAS, and a B.A. in the physics of solids from John Hopkins University in Baltimore, MA-USA. Moreover, in 1994, he was engineer at the prestigious Institut National des Sciences Appliquées of Toulouse (INSA).

#### **About Neosens SA**

Founded in 2001, and located outside Toulouse, France, Neosens designs and markets a new generation of sensor solutions for the monitoring of fouling and dissolved oxygen in industrial process applications.

With expertise in electro-chemical fluid monitoring and microelectronics processes, Neosens has created a series of innovative sensors based on Micro-Electro-Mechanical Systems (MEMS) technology. MEMS offer the integration of electrochemical sensors and control electronics on a common silicon substrate, using semiconductor wafer fabrication technology.

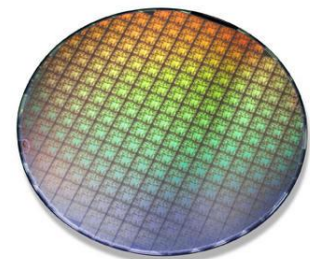
Neosens technology is currently used in cooling systems, pulp and paper processing, food and beverage, ultrapure water and other industrial applications.

#### **Can you briefly explain the key characteristics of your MEMS technology (origin, type of MEMS device, key technological steps,...)?**

> Dr. Laurent Auret

Our MEMS platform for water-quality sensors development is oriented along 5 technological domains: electrochemical, thermal, ChemFET (Chemical Field Effect Transistor), SAW (Surface Acoustic Waves) and optical devices.

Our main objective is to reach a position of leader in the MEMS industry as OEM monitoring solutions provider by selling innovative components, which will then be integrated, and therefore become a highly added-value to industrial and environmental monitoring solutions. As a first phase, selling monitoring solutions is intended to penetrate the market with a 'packaged solution' and demonstrate our highly-technological value and know-how thanks to success stories.



The demand for continuous, real-time, and online measurements parameters (such as pH, conductivity, dissolved oxygen...) is growing constantly. By using MEMS, Neosens is able to respond to this demand and also to reduce the size, and cost of the sensors, while increasing their precision and reliability in harsh environments.

Today, combining MEMS technologies with our expertise in electro-chemistry allows us to develop the next generation of sensors to monitor continuously fouling in all liquid environments, and consequently prevent health risks such as legionella, optimize energy efficiency process by reducing chemical discharges...

## **What are the advantages of using MEMS technology/devices in your products and applications?**

> Dr. Laurent Auret

The sensors are based on MEMS (Micro-Electro-Mechanical Systems) technology, which offers the integration of electrochemical sensors and control electronics on a common silicon substrate. By using MEMS Neosens is able to reduce the size and cost of the sensors, while increasing their precision and reliability in harsh environments.

Neosens will continue to evolve the core technology by further miniaturizing the sensors, and thereby increase their sensitivity and cost effectiveness. With energy costs on the rise and a growing sensitivity to the excessive use and disposal of chemicals, MEMS technologies should open up a host of new application areas to Neosens, and further address the fouling-related problems faced by many industries worldwide.

Neosens customers benefit from reduced operating costs, less environmental impact and health risk, and extended life of their equipment.

## **Neosens has recently announced 2.5M€ in funding round. What will be the expected use for Neosens?**

> Dr. Laurent Auret



This funding operation will go toward developing our sales activities worldwide.

The creation phase of the company is now achieved and complete, and today, we are focus on the worldwide sales development of our innovative products, as well as marketing and R&D initiatives.

As a first step, Neosens has expanded its team to support its sales and production, and moved from prototypes to series production.

This phase has been followed by unveiling in February a new logo to represent Neosens. Our new logo displays a more innovative and up-to-date image, which is more in line with our products based on continuous innovation and excellency. Additionally, our website will be re-vamped to integrate our new image and become more interactive with our customers.

## **In a medium term, what will be the next key steps for the company?**

> Dr. Laurent Auret

The next step for Neosens is to develop and expand our current line of sensors, develop our OEM integration activities and add measurement techniques to our technology platform in order to become the leader in OEM water-quality control sensors. Thanks to the MEMS technologies, the goal in the future will be to offer more powerful sensors with unique capabilities permitting the measurement of new parameters (biofilm, pesticides, heavy metals...) to monitor the quality of waters, industrial waters, dairy products, and all other liquid environments.

